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Environmental Standard Operation	vices Project haracterization	and Re	mediation
for Databas	se Chang	e Ma	nagement

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Revision Log

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0	2/18/05	Robert Watts	New Procedure	All

Database Change Management

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List of Acronyms and Abbreviations

DBA	Database administrator	ERDB_PROD	Environmental Restoration
DQA	Data quality application		Production Database
ECR	Environmental	LANL	Los Alamos National Laboratory
	Characterization and	PVCS	Project Version Control System
	Remediation	QP	Quality Procedure
ENV	Environmental	RPF	Records Processing Facility
	Stewardship	RS	Remediation Services
		SOP	Standard Operating Procedure

Database Change Management

1.0 PURPOSE

This standard operating procedure (SOP) states the responsibilities and describes the process for managing data updates to the Environmental Restoration Production Database (ERDB_PROD) for the Los Alamos National Laboratory (LANL or the Laboratory) Environmental Stewardship (ENV) Division – Remediation Services (RS) Project Environmental Characterization and Remediation (ECR) Group.

2.0 SCOPE

2.1 All **ENV-RS/ECR project participants** shall implement this procedure when managing data updates to ERDB_PROD.

3.0 TRAINING

- 3.1 **ENV-RS/ECR participants** shall train to (e.g., by reading and/or classroom training) and use the current version of this procedure; contact the author of this procedure if the text is unclear.
- 3.2 **ENV-RS/ECR participants** using this procedure shall document training in accordance with Quality Procedure 2.3 (QP-2.2), Personnel Training Management.
- 3.3 The responsible **project leader** shall monitor the proper implementation of this procedure.
- 3.4 The responsible **team leader** shall ensure that the appropriate personnel complete all applicable training assignments.
- 3.5 **ENV-RS/ECR participants** may request any needed assistance with implementation of this procedure from the ENV-RS/ECR Quality Integration and Improvement team.

4.0 **DEFINITIONS**

Audit table – Table associated with any table that is subject to change control. Audit tables have structures identical to their associated tables but also include fields for requester Z#, date requested, date implemented, change description, and change justification. Audit table names are of the for Tablename_audit.

Data Quality Application (DQA)- Application fro managing and updating lookup tables.

Database administrator (DBA) – The individual(s) tasked with managing ERDB_PROD. The DBA is the sole individual with direct access to ERDB_PROD.

Lookup tables - Changes mediated through the Data Quality Application

Project Version Control System Version Manager (PVCS) – Application for managing and tracking changes to applications and data.

Process tables – Tables employed by one or more applications. Never directly accessed by users, process tables are only changed from within the associated application.

Tables subject to change control – All ERDB_PROD tables, excluding (a) lookup tables, (b) process tables, and (c) unused tables

Unused tables – Tables created as part of the design process. Unused tables are (a) empty and (b) unaffected by any applications

5.0 RESPONSIBLE PERSONNEL

The following personnel are responsible for activities identified in this procedure:

- DBA
- Project Leader
- ENV-RS/ECR Project Participants
- User

6.0 BACKGROUND AND PRECAUTIONS

None.

7.0 EQUIPMENT

None.

8.0 PROCEDURE

Make any deviations from this procedure in accordance with QP-5.7, Notebook Documentation for Environmental Restoration Technical Activities.

- 8.1 Initiate ERDB PROD Change Request
 - 8.1.1 The **user** shall query the relevant table to extract data and determine which fields require changing.
 - 8.1.2 The **user** shall determine whether the relevant tables are subject to change control.

- 8.1.3 The **user** shall download the change request spreadsheet template (Attachment A) from http://erinternal.lanl.gov/Quality/user/forms.asp and populate on the spreadsheet the data to be changed.
- 8.1.4 The **user** shall download the change request form (Attachment B) from http://erinternal.lanl.gov/Quality/user/forms.asp and complete the initial section by documenting within it the following information:
 - change summary
 - change justification
 - user ID
 - date
 - approval
- 8.1.5 The **user** shall email the completed change request spreadsheet and change request form to the DBA.
- 8.2 Review ERDB_PROD Change Request
 - 8.2.1 Using unique ID from change request spreadsheet, the **DBA** shall extract the dataset to be changed.
 - 8.2.2 The **DBA** shall review the change request and determine an implementation plan.
 - 8.2.3 The **DBA** shall create a SQL update query.
 - 8.2.4 The **DBA** shall test the updated query against the test database and verify that the query functions as it should.
 - 8.2.5 The **DBA** shall complete second section of update request form by documenting within it the following information:
 - affected tables
 - affected fields
 - text of SQL update script
 - date
 - approval
 - 8.2.6 If required, the **DBA** shall forward the updated request spreadsheet and request form to ENV-Water Quality and Hydrology (if data is shared between ENV-ECR and ENV_WQH),

AAA (if data is at the sample level and request comes from outside AAA), or other applicable reviewers.

- 8.3 Make Change(s) to ERDB_PROD
 - 8.3.1 If a change request requires approval, the **DBA** shall <u>not</u> perform the following steps until the applicable approval has been made.
 - 8.3.2 The **DBA** shall populate the appropriate audit table by documenting within the table the following original and modified extracted dataset information:
 - user ID
 - date requested
 - date implemented
 - change description
 - · change justification
 - 8.3.3 The **DBA** shall implement the changes in main ERDB table(s)
- 8.4 Document Change(s) to ERDB_PROD
 - 8.4.1 The **DBA** shall log into PVCS Version Manager.
 - 8.4.2 The **DBA** shall document the ERDB changes within PVCS by entering them to the RRES-RS project database.
 - 8.4.2.1 The **DBA** shall create and enter into a .zip file the new ERDB_PROD data including:
 - 8.4.2.1.1. Change request spreadsheet
 - 8.4.2.1.2. Completed change request form
 - 8.4.2.1.3. SQL update statement
 - 8.4.2.2 The **DBA** shall name and save the .zip file using the followingname format YYYYMMDD[change description].zip.
 - 8.4.2.3 The **DBA** shall checks the .zip file in to PVCS directory DBA\Data_Updates
 - 8.4.3 The **DBA** shall save copies of the change request spreadsheet, change request form, supporting e-mail, and any other supporting documentation to the requester's Z# folder at \\\\ER5\\Pueblo\Database_updates

8.4.4 Once per year, the **DBA** shall submit all change request spreadsheets, change request forms, supporting emails, and any other supporting documentation, from the previous year, to the Records Processing Facility (RPF).

9.0 LESSONS LEARNED

- 9.1 Before performing work processes prescribed in this procedure, **RRES-RS/ECR participants** should access the Department of Energy Lessons Learned Information Services Web site, http://www.tis.eh.doe.gov/ll/ll.html, and Laboratory Lessons Learned Resources Web site, http://www.lanl.gov/projects/lessons_learned/, and search for applicable lessons learned.
- 9.2 **RRES-RS/ECR participants** should submit any lesson learned related to work prescribed in this procedure to the Laboratory Lessons Learned Resources Web site, http://www.lanl.gov/projects/lessons learned/.

10.0 RECORDS

The **DBA** shall submit the following records to the RPF, in accordance with QP-4.4, Record Transmittal to the Records Processing Facility:

- change request spreadsheet
- change request form
- initiating email
- other supporting documentation

11.0 REFERENCES

To implement this procedure properly, **RRES-RS/ECR participants** should become familiar with the contents of the following documents. Unless indicated otherwise, these documents are available from

http://erinternal.lanl.gov/home_links/Library_proc.shtml:

- ENV-RS Quality Management Plan
- QP-2.2, Personnel Orientation and Training
- QP-4.2, Standard Operating Procedure Development
- QP-4.4, Record Transmittal to the Records Processing Facility
- QP-5.7, Notebook Documentation for Environmental Restoration Technical Activities

12.0 ATTACHMENTS

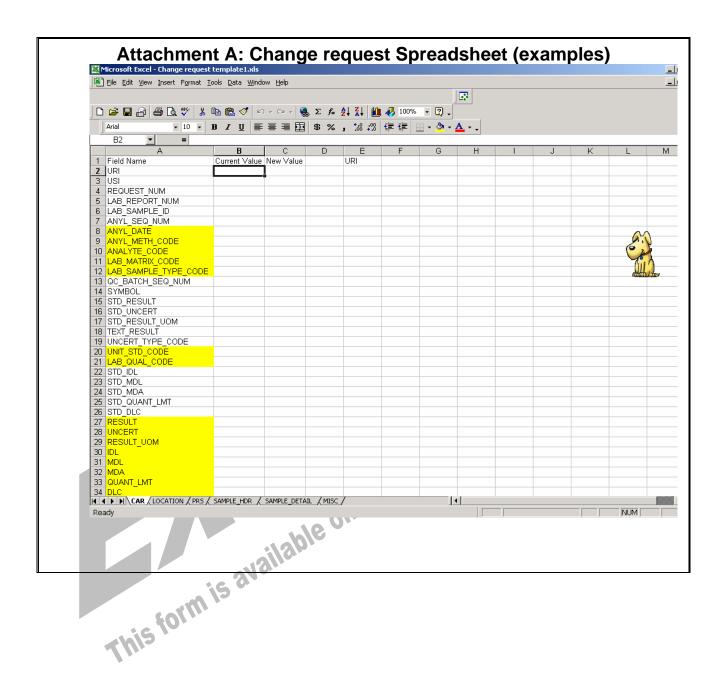
The **user** of this SOP may locate all forms associated with this procedure at http://erinternal.lanl.gov/Quality/ user/forms.asp.

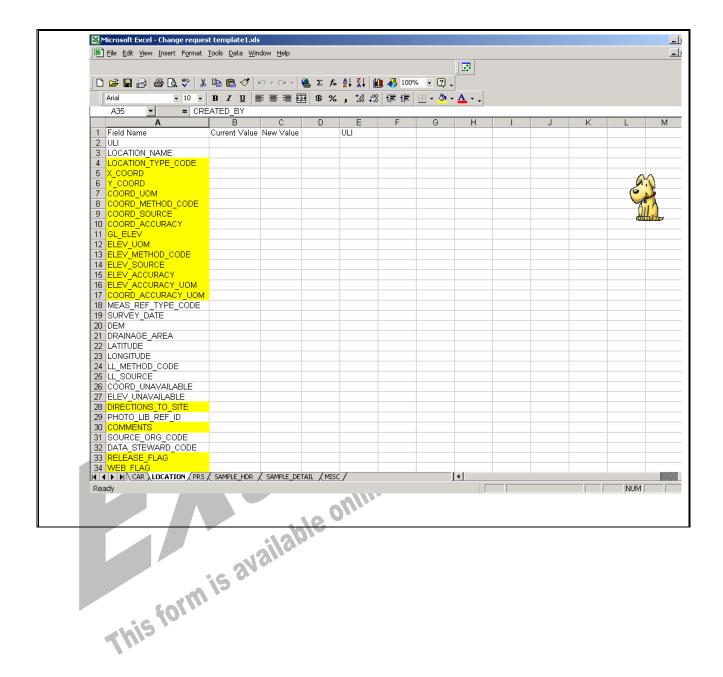
Attachment A: Change request spreadsheet (examples) (6 pages)

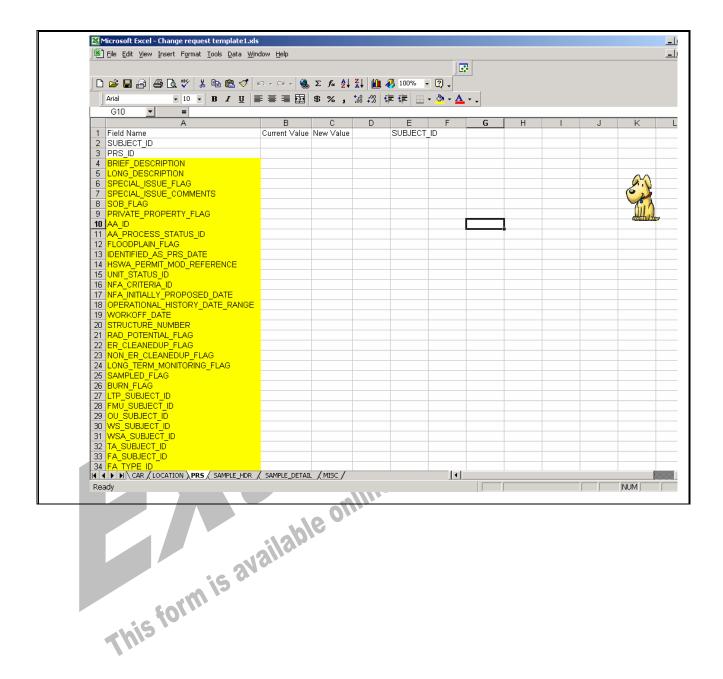
Attachment B: ERDB change request form (1 page)

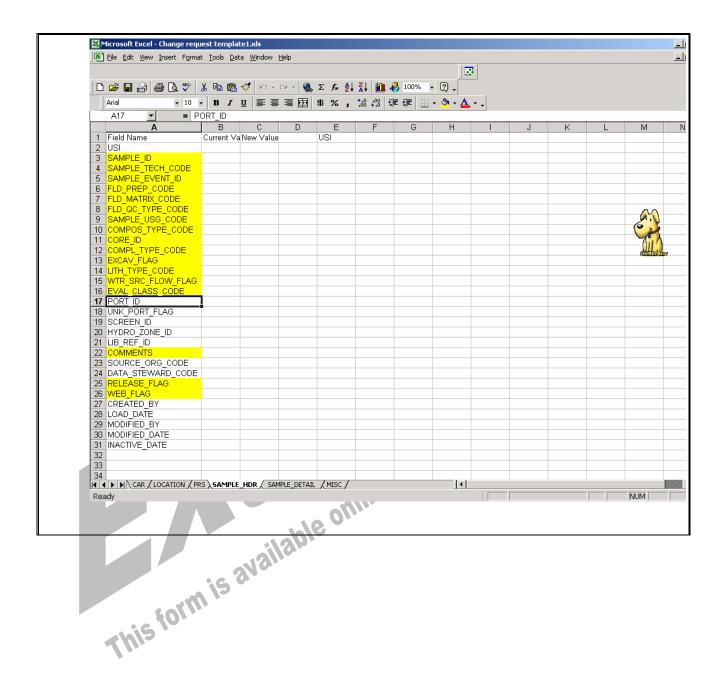
<u>Using a token card, click here to record "self-study" training to this procedure.</u>

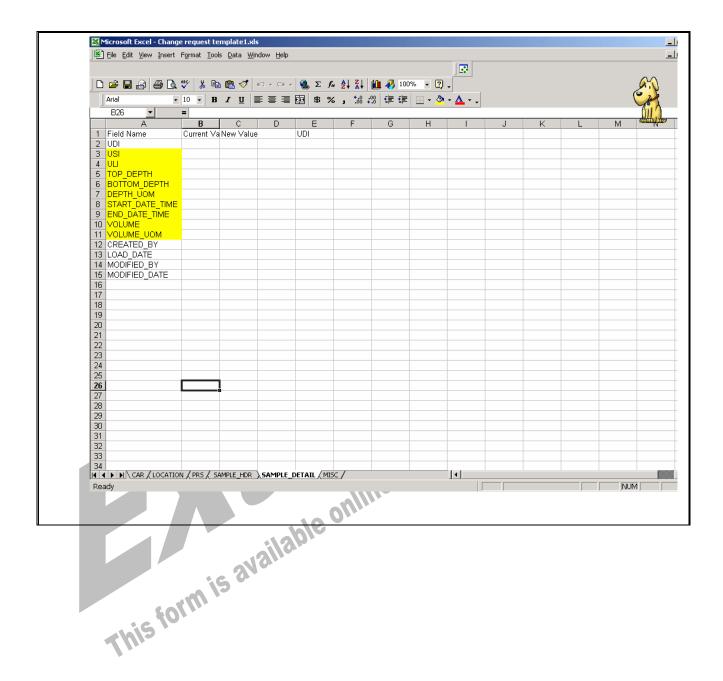
If you do not possess a token card or encounter problems, contact the ENV-ECR training specialist.



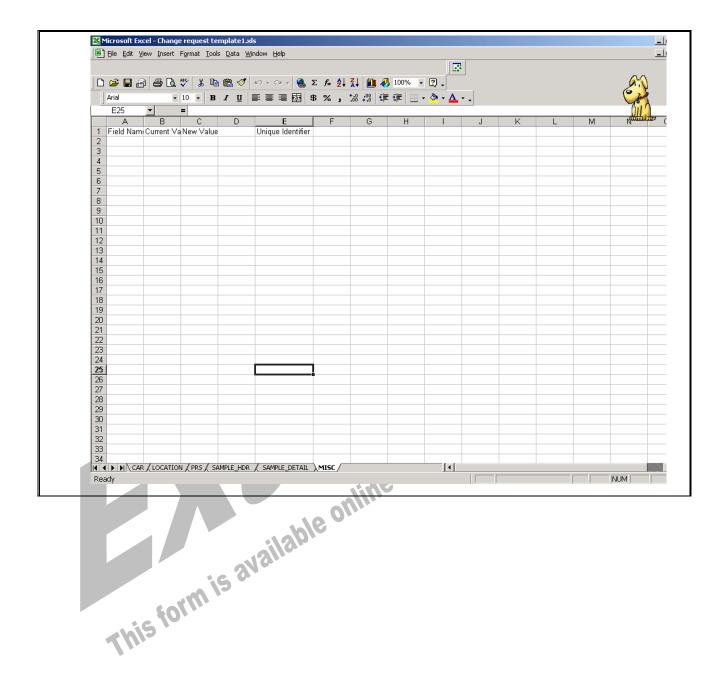








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Attachment B: ERDB Change Request			
ERDB Change Request (v2.0)			
Date: Requestor:			
Responsible	Activity and Supporting Information		
individual			
User	Change summary:		
User	Change justification:		
User	User ID:		
User	Date:		
User	Approval:		
DBA	Affected fields:		
DBA	Affected fields:		
DBA	Update statement:		
DBA	Date:		
DBA	Approval:		
AAA	Approval:		
WQH	Approval:		
Other	Approval:		